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A PUBLICATION OF THE INFORMATION CENTER BUREAU
MONTANA DEPARTMENT OF ADMINISTRATION

INFORMATION SERVICES DIVISION
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DEADHEAD

MAINFRAME SECTION

FREE MAINFRAME CLASSES

The Information Center will offer two free mainframe mini classes in May and June. On May 23 from 1:30 pm to 3:30 pm, Gary Wulf will cover advanced ISPF topics. Entry Assist, Shift and Bounds, Text Entry Mode, Line Commands (copy, move, etc), Catalog Inquiry and Management and the Move/Copy Utility will be discussed.

On June 2 from 1:30 pm to 3:30 pm, Randy Holm will show participants how to allocate and authorize datasets with the Online Disk Management System.

Both mini classes will be held in Room 25 of the Mitchell Building.

CICS PRODUCTIVITY TOOLS

Information Services Division has acquired two program products designed to increase the productivity of CICS programmers. The products are InterTest by On-Line Software and BMS/GT by GT Software.

InterTest provides CICS programmers with a tool to reduce the amount of time required to test CICS programs or debug old ones. InterTest is used on-line to allow a programmer to inspect or modify program variables, test data, or other information in the main storage or in any file defined to CICS. Menu screens are available for all of its functions and a HELP facility provides on-line information and instruction when needed. InterTest is currently in production and available for use.

BMS/GT is an on-line map generator which allows the programmer to create the map on the screen and then create the map definition. New maps can be created or existing maps can be modified, even those not originally created using BMS/GT. Generated maps can be converted back to BMS macros if necessary. A DEMO facility exists for displaying a set of maps one after the other to simulate the application being written. A help facility exists for the programmer and tutorial panels can also be easily written to provide help for the user of the application. BMS/GT will be available later this summer.

Demonstrations on these two CICS productivity tools will be held in the ISD Training Center, Room 25 of the Mitchell Building on Tuesday, June 3, 1986. Classes on these two products will be held later this summer. For more information on these products, contact Ron Armstrong or Colin Jenkins at 444-2860.

MICRO-MAINFRAME TRANSFER COSTS

Due to the increasing interest in transferring data from the mainframe to PC's, the Information Center recently performed the following tests to measure the time and cost of transfers. Test results were obtained under the following conditions:

- All transfers were performed online during daytime shift at high use times (mid-morning and mid-afternoon).
- Transfers were performed from the IBM 3081 mainframe to an IBM PC AT (transfers run approximately 25% slower on an IBM PC/XT).
- All transfers were run online under TSO.
- Time is expressed in min:sec.
- Cost reflects daytime rates.
- Three different size files were tested (4K, 160K, 1M).

Coax attached with board (local attach)

	4K		160K		1M	
Name	Time	Cost	Time	Cost	Time	Cost
IRMA Board	0:20	$ 0.94	9:09	$ 2.65	1/	
IRMAlink	0:12	$ 2.25	2:21	$49.85	2/	
IBM 3278/79	0:22	$ 0.83	2:35	$ 1.61	14:33	$ 6.07
PANLINK w/IRMA 3/	0:06	$ 2.70	1:41	$ 3.70	9:50	$ 8.56
PANLINK w/IBM 3/	0:05	$ 2.52	1:22	$ 3.42	6:50	$ 8.29
4/	0:04	$ 0.48	0:18	$ 1.32	1:38	$ 5.55

Dialup to protocol converter at 1200 baud

	4K		160K		1M	
Name	Time	Cost	Time	Cost	Time	Cost
PANLINK 3/	1:36	$ 2.72	33:10	$ 4.26	1/	

1/ This transfer was not performed because of the great length of time it would take.

2/ This transfer was attempted but abended due to TSO step time exceeded (used 2 minutes of CPU time, approx $155, and had transferred about 500K when abend occurred).

3/ Includes only the transfer from virtual disk on the mainframe to real disk on the PC.

4/ Includes only the transfer from mainframe file to virtual disk. Note that this can be done in a mainframe batch job to save time and money.

Recommendations

PANLINK appears to be a good choice for file transfers, especially with larger files. It does cost a bit more for small transfers, primarily because we installed it under ISPF so it is easy to use. It is the best general purpose transfer we have.

IRMA is inexpensive to run, but unbearably slow. Only use IRMA for very small file transfers.

IRMAlink is the host software which speeds up IRMA transfers. It was acquired for testing and is not yet available for general use. It does indeed make IRMA transfers faster, but at an atrocious cost. We probably won't release IRMAlink for general use due to its high runtime cost.

IBM 3278/79 file transfers are the cheapest way to go and are reasonably quick. Large transfers do take longer than PANLINK but the time is tolerable. This isn't a bad option if you have this hardware.

While selective backups may be appropriate, we do not recommend using any of the file transfers for frequent hard disk backups. Other options such as tape or diskette backup may be more cost effective. We encourage you to monitor your file transfer costs in order to use these micro-mainframe links in the most effective way. Contact Randy Holm in the Information Center at 444-2824 if you have any questions regarding micro-mainframe links.

MICROCOMPUTER SECTION

MICROCOMPUTER SOFTWARE PROGRAM -- NEW SOFTWARE ADDED

Property and Supply Bureau (444-4514) has taken over the software resale program. The Information Center no longer stocks supported software packages. Contact Property and Supply if you are interested in purchasing software.

Also, agencies interested in upgrading LOTUS 1-2-3 from Release 1A to Release 2, contact Property and Supply. The price is $125.00.

The following software is available from Property and Supply:

Stock Number	
9510-1200	PFS:FILE and PFS:REPORT
9510-1300	Crosstalk XVI
9510-1100	WordPerfect
9510-1000	LOTUS 1-2-3 Release 2
9510-1001	LOTUS 1-2-3 Upgrades
9510-1400	DisplayWrite 3*

* DisplayWrite 3 has been added to the resale program and will tentatively be available by June 1, 1986.

NEW SAS PRICING SCHEDULE

SAS has announced a new pricing schedule for PC SAS Products. Call Gary Wulf at 444-2555 for details.

SOFTWARE DIGEST RATINGS NEWSLETTER

Interested in microcomputer software? The Information Center subscribes to a variety of publications designed to help you select software. One publication is the Software Digest Ratings Newsletter. This publication includes information on word processing, data management, spreadsheets, graphics, accounting and various other software. It has an index to provide easy reference. Contact Teri Lundberg (444-3994) in the Information Center for more information.

MICROCOMPUTER TERM CONTRACT PRICE REDUCTIONS

IBM and Data Northwest have announced price reductions on the Microcomputer Term Contract. An addendum was sent out the end of April. If you did not receive this, contact Teri Lundberg (444-3994) in the Information Center. After May 7th, an updated version of the term contract will be available on diskette in WordPerfect or DisplayWrite format. If you would like the updated version, send a blank, formatted, double-sided/double density diskette to the Information Center. Call Mel Liston (444-2859) or Jeanette Rushford (444-2858) for more information.

LOTUS CORPORATION PRESENTATION

Jim O'Farrell from LOTUS Corporation will give a presentation on Monday, May 12, in the Haynes Auditorium located in the Historical Society Building. The presentation is from 1:00 pm to 3:00 pm. Topics to be covered include: 1-2-3 Release 2, Report Writer, and HAL (a natural language interface for LOTUS products). Mr. O'Farrell will also answer questions on LOTUS 1-2-3 Release 2. Limited seating is available. Contact Brett McAlister at 444-2044 or Sheila Morasko at 444-2974 to register.

UNIX USER GROUP FORMED

A UNIX user group has been formed. Members include Unix users in state government, AT&T, and private business. It is open to anyone interested in learning more about UNIX and UNIX based computer systems. For more information, contact Gale Kramlick at 444-3757.

SECURITY OF PERSONAL COMPUTERS

Now that millions of people are using small computers in their offices, security is no longer an issue just for the specialists. In the past, well-trained systems and support personnel performed many of the tasks required to protect large centralized systems. Today, the managers and users of small systems must take the steps themselves to protect their equipment and data. ICST's (The Institute for Computer Sciences and Technology) publication, Security of Personal Computer Systems: A Management Guide, discusses basic security problems and control, and the management actions needed for information security in a personal computer environment.

In many ways, the security problems have not changed. All computer systems and applications, regardless of size, should be operated to assure:

- confidentiality of personal, proprietary, or other sensitive data handled by the system;
- integrity and accuracy of data and the processes that handle them;
- availability of systems and data or services they support

All systems, regardless of size, are susceptible to accidental or intentional events that threaten security including:

- environmental hazards
- hardware and equipment failure
- software failure
- errors and omissions
- disgruntled or dishonest personnel

Meeting Security objectives and avoiding threats are part of management responsibilities for all information systems. There are, however, some special considerations that apply to small systems. First of all, physical accessibility to small systems is not easily controlled and protection against damage, hardware modification, or unauthorized access is difficult to prevent. Second, small computers seldom have built-in hardware mechanisms to isolate users from sensitive, security-related system functions. Then too, it is easier to search for information on a small computer. The information is likely to be associated with one person or group of persons and be in the form of memoranda, reports, and spreadsheets, or simple lists which are readily accessible using software tools familiar to many personal computer users. Last, since there are so many users of small computers, it is difficult for organizations to provide adequate training and assure consistent procedures for security.

A formal security management program is key to providing consistent and effective controls. Elements of that program should include:

- formal assignment of authority and responsibility for information security management
- formal procedures to control the development and use of information systems
- formal plans and procedures to respond to emergency and disaster situations
- policies and procedures for ensuring that security requirements are specified in all procurement of systems and equipment....

The above article is from Virginia's Information Technology Bulletin, First Quarter 1986, Issue 2. The complete article is in the March 1985 issue of ICST: A letter from the Institute for Computer Sciences and Technology, US Department of Commerce, National Bureau of Standards. A copy may be ordered by sending $3.00 to: Superintendent of Documents, US Government Printing Office, Washington, DC 20402. The document number is SN 003-003-02627-1.

GENERAL NEWS

ARTICLES SOUGHT

Articles from other state agencies are always welcome. It is interesting to find out what other state agencies are doing. If you are interested in contributing to News and Views or if you have suggestions on topics for articles, please contact Teri Lundberg (444-3994), Information Center, Room 24, Mitchell Building, Helena, MT 59620.

COMPUTER TRIVIA

What is UNIX?
UNIX is a multiuser operating system developed by Bell Laboratories. It consists of the "kernel" that schedules tasks and manages data storage, the "shell" that connects and interprets the commands typed by a system user, and utility programs that perform a variety of routine and special system maintenance functions. Primarily used on minicomputer systems.

INCREASING YOUR COMPUTER VOCABULARY

Microcomputer Terms

Port
The place where another device is connected to the computer. These can be serial (one bit following another over a single pathway) or parallel (several bits traveling over separate pathways grouped together simultaneously).

Boards
Refers to circuits boards that are inserted into PCs to permit them to perform additional functions. In some cases, these boards hook to controllers of one kind or another with coaxial cable so you may hear the term coax boards. There are a vast array of boards available including 3278/3279 emulation boards and graphics boards.

Motherboard
The main board or chassis with female connectors into which all printed circuit boards are attached to the microprocessor.

Slot
An area on the motherboard in which an add-in board is fitted. The standard IBM XT Motherboard contains eight slots.

Dumb Terminal
A device with a keyboard for inputting data and a display screen for the output of data but lacking local processing capability. A dumb terminal provides remote access to a computer but cannot itself be programmed.

Mainframe Terms
The following terms refer to the ways that a data terminal or a PC can be connected to the State Data Communications Network.

Leased Line
A communication channel leased for exclusive use from a common carrier. Frequently referred to as a private line.

Multipoint line
A communication line using a single channel or line to serve multiple terminals. Also called a multidrop line.

Switched Line
A telephone line that is connected to a switched telephone network (e.g. dial-up).

TRAINING SCHEDULE

MAINFRAME CLASSES

BASIC TERMINAL SKILLS (ISD12): presented by Wendy Wheeler of the Information Center

DATE:	July 8, 1986
TIME:	8:30 a.m. to 4:00 p.m.
PLACE:	ISD Education Center, Room 14, Mitchell Building
COST:	$50.00
LIMIT:	8
PREREQUISITE:	3270nd (interactive class on terminal operation)
CANCELLATION DATE:	July 1, 1986

BASIC TERMINAL SKILLS is a hands-on workshop to provide experience using computer terminals and the SPF editor. The SPF editor is an easy-to-learn menu used to enter data and programs into the State of Montana central computer system. Entering data, changing data and submitting programs for execution are covered in detail. Also covered are SPF's utility functions and how to track job output.

This course is essential for state government personnel using terminals tied into the State of Montana central computer. This course is a prerequisite for many other ISD classes.

INTRODUCTION TO SAS (ISD32): presented by Gary Wulf of the Information Center

DATE:	July 9 and 10, 1986
TIME:	8:30 to 4:30
PLACE:	Room 14, Mitchell Building
COST:	$100.00
LIMIT:	8
PREREQUISITE:	Basic Skills (ISD12) or equivalent.
CANCELLATION DATE:	July 2, 1986

Although SAS stands for Statistical Analysis System, it is a very powerful general purpose tool for capturing, editing, and reporting data. In just a few minutes, one can design and program a full screen data entry application for a terminal. Reports and statistical procedures can be coded to summarize and print the information entered.

This course is intended to teach the basics of SAS as a general tool. It does not attempt to teach statistics and prior knowledge of statistics is not necessary.

MICROCOMPUTER CLASSES

BEGINNING MICROCOMPUTER SKILLS (OA02): presented by the staff of the Information Center

DATE:	July 15, 1986
	or July 16, 1986
TIME:	8:15 a.m. to 4:30 p.m.
PLACE:	Room 25, Mitchell Building
COST:	$50.00
LIMIT:	10
PREREQUISITE:	None
CANCELLATION DATE:	June 2, 1986

This course will give participants brief hands-on experience with microcomputers. Topics to be covered:

- The machine
- The operating system
- Word processing
- Spreadsheets and graphics
- File management
- Communications

All class time will be spent using microcomputers and software. The participant will learn what microcomputers can do and how to approach them with a positive attitude. This course or its equivalent is a prerequisite for other microcomputer courses.

FUNDAMENTALS OF DOS (OA03): presented by Sheila Morasko of the Information Center

DATE:	June 26 and June 27, 1986
TIME:	8:30 a.m. to 12:00 noon each day
PLACE:	Room 14, Mitchell Building
COST:	$75.00
LIMIT:	10
PREREQUISITE:	Beginning Micro Skills and/or 3 months micro experience
CANCELLATION DATE:	June 19, 1986

FUNDAMENTALS OF DOS is intended for microcomputer users who need to know more about controlling their microcomputer through its operating system. Programming experience is NOT required.

Topics to be covered include:

- What is DOS? Why is it necessary to know about it?
- DOS names for peripherals
- File naming
- Special files like CONFIG.SYS
- Internal commands - DIR, ERASE, RENAME, TYPE, COPY and their variations
- External commands - FORMAT, SYS, DISKCOPY, CHKDSK, MODE
- How to interpret batch files
- Backup procedures

WORD PROCESSING CLASSES

DISPLAYWRITE 3 - SPECIAL TOPICS (OA40): presented by Sheila Morasko of the Information Center

DATE:	June 25, 1986
TIME:	9:00 a.m. to noon
PLACE:	Room 25, Mitchell Building
COST:	$25.00
LIMIT:	8
PREREQUISITE:	Beginning Microcomputer Skills (OA02)
CANCELLATION DATE:	June 18, 1986

This course is intended for those already using Displaywrite 3 on a microcomputer for word processing. The special topics class is designed to present tips, shortcuts and advanced features of the package. This class will cover Document Utilities (copy documents, delete documents & DOS files, rename) and Profile Tasks (storing changed defaults for text and work station).

If possible, please bring your Displaywrite software with you to class. This class is also available for those using Displaywrite 2.

INTRODUCTION TO WORDPERFECT (OA18): presented by Sheila Morasko of the Information Center

DATE:	June 17 and June 18, 1986
TIME:	1:00 pm to 4:30 pm on June 17 and 8:30 am to 3:30 pm on June 18
PLACE:	Room 25, Mitchell Building
COST:	$75.00
LIMIT:	10
PREREQUISITE:	Beginning Microcomputer Skills (OA02)
CANCELLATION DATE:	June 9, 1986

This course is intended for anyone interested in learning the basics of WordPerfect. This class will concentrate on text creation, use of function keys, editing, formatting, printing, filing, and retrieving documents. An advanced class for WordPerfect is also available.

ADVANCED FEATURES OF WORDPERFECT (OA20): presented by Sheila Morasko of the Information Center

DATE:	May 19 and 20, 1986
TIME:	8:30 a.m. to 3:00 p.m. on May 19 8:30 a.m. to 12:00 noon on May 20
PLACE:	Room 25, Mitchell Building
COST:	$75.00
LIMIT:	10
PREREQUISITE:	Beginning Microcomputer Skills (OA02) and Introduction to WordPerfect (OA18)
CANCELLATION DATE:	May 12, 1986

For those already using WordPerfect, the advanced class will cover headers, footers, footnotes, macro programming, merging, page numbering and spelling checks.

LOTUS 1-2-3 CLASSES

INTRODUCTION TO LOTUS 1-2-3 (OA12): presented by Wendy Wheeler of the Information Center

DATE:	June 16 and 17, 1986
TIME:	8:30 am to 3:30 pm on June 16 8:30 am to 12:00 noon on June 17
PLACE:	Room 25, Mitchell Building
COST:	$75.00
LIMIT:	10
PREREQUISITE:	Beginning Microcomputer Skills (OA02)
CANCELLATION DATE:	June 9, 1986

This course is designed for anyone with little or no previous 1-2-3 or microcomputing experience. INTRODUCTION TO LOTUS 1-2-3 will concentrate on 1-2-3 spreadsheet design and commands and the creation of graphics. Printing spreadsheets and graphs is also covered. The more advanced features such as macro programming and database commands are covered in other courses. Class format consists of lecture and hands-on practice followed by lab time on actual agency spreadsheets for further experience.

ADVANCED FEATURES OF LOTUS 1-2-3 (OA21): presented by Ron Heilman of the Information Center

DATE:	June 23 and June 24, 1986
TIME:	8:30 am to 4:30 pm on June 23 **LAB 1:** 8:30 am to 12 noon on June 24 **LAB 2:** 1:00 pm to 4:30 pm on June 24
PLACE:	Room 25, Mitchell Building
COST:	$75.00
LIMIT:	10
PREREQUISITE:	Introduction to Lotus 1-2-3 and Beginning Microcomputer Skills
CANCELLATION DATE:	June 17, 1986

This course is designed for anyone who is using 1-2-3 for basic spreadsheet work. Features not covered in the introductory class will be included (ex: protection status, range names, combining files, etc). Advanced features such as macro programming, one and two-way sensitivity analysis tables and database commands will be covered in detail.

Class consists of lecture, hands-on practice, lab work or question and answer period if time permits.

MACRO PROGRAMMING WITH LOTUS 1-2-3: presented by Wendy Wheeler of the Information Center

DATE:	May 15, 1986
TIME:	1:00 pm to 4:30 pm
PLACE:	ISD Education Center, Mitchell Building
COST:	$35.00
LIMIT:	10
PREREQUISITE:	Intro to Lotus (OA12) or equivalent experience
CANCELLATION DATE:	May 8, 1986

The macro programming capabilities of 1-2-3 can help you automate 1-2-3 tasks, saving time and keystrokes. A macro is a sequence of keystrokes and commands stored in your worksheet for execution when desired. This class is for 1-2-3 users who have no previous macro experience. Through lecture, video and hands-on practice, participants will learn to write and document timesaving macros.

dBASE Classes

ADVANCED DBASE III: presented by John Lowry of Computer Expertise

DATE:	June 19 and June 20, 1986
TIME:	8:30 am - 4:00 pm on June 19 and 8:30 am - 12:00 noon on June 20
PLACE:	Room 25, Mitchell Building
COST:	$125.00
LIMIT:	8
PREREQUISITE:	Intro to dBASE III or equivalent
CANCELLATION DATE:	June 12, 1986

This course is intended for people with good background in dBASE III. Advanced database techniques involving file updating and obtaining information from two or more files simultaneously will be taught. The dBASE command language and its automated report possibilities are emphasized.

Topics to be covered include:

- Review of basic commands for file manipulation
- Managing multiple data files
- Combining and summarizing databases
- Memory variables
- Creating command files
- Modular programming
- A sample system

ISD ENROLLMENT APPLICATION
(FOR ALL COURSES)

PLEASE COMPLETE THE FOLLOWING APPLICATION AND RETURN TO INFORMATION SERVICES DIVISION

COURSE: _____

DATE: _____

STUDENT: _____

AGENCY/DIVISION: _____

MAILING ADDRESS: _____

_____

PHONE: _____

ISD BILLING NUMBER: _____

SOC SEC NO (FOR P/P/P): _____

AUTHORIZED SIGNATURE: _____

HAVE YOU MET THE PREREQUISITES FOR THIS COURSE? PLEASE EXPLAIN GIVING JOB EXPERIENCE OR CLASS WHEN APPLICABLE

_____

_____

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Editor: **Teri Lundberg**
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